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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,220	06/23/2006	Keiichi Chono	Q95587	1678
23373 7590 01/05/2012				
SUGHRUE MION, PLLC				
2100 PENNSYLVANIA AVENUE, N.W.				
SUITE 800				
WASHINGTON, DC 20037				
EXAMINER				
PONTIUS, JAMES M				
ART UNIT		PAPER NUMBER		
2485				
NOTIFICATION DATE		DELIVERY MODE		
01/05/2012		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com  
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**Office Action Summary****Application No.**

10/584,220

**Applicant(s)**

CHONO, KEIICHI

**Examiner**

JAMES PONTIUS

**Art Unit**

2485

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/2011 has been entered.

### ***Response to Arguments***

2. Applicant's arguments, filed 12/22/2011 have been fully considered but they are not persuasive.

Regarding claim 1, Applicant argues that "Cosman does not teach or suggest that the encoding structure is controlled to periodically display frames encoded in a high picture quality". Examiner respectfully disagrees.

First, claim 1 does not recite any periodic display of "frames encoded in a high picture quality". Claim 1 recites "arranging the frames encoded in the higher picture quality at constant frame intervals". No display is recited in claim 1. Second, this recited limitation of claim 1 is disclosed by Cosman at paragraph [0030], in which a high quality frame is encoded periodically such as once every ten frames. This is disclosed again by Cosman at paragraph [0071].

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5, 11-15 and 17-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 1 and 11 recite encoding "the selected reference frame" in the second paragraph after the preamble. It is unclear which frame is being referred to here as "the selected reference frame" because multiple reference frames are selected in each of these claims.

6. Claims 2-5 recite "the frame encoded in the higher picture quality". It is unclear which frame is being referred to here as "the frame encoded in the higher picture quality" because multiple encoded frames have been previously recited in claim 1.

7. Claims 12-13 recite "the selected reference frame". It is unclear which frame is being referred to here as "the selected reference frame" because multiple selected frames have been previously recited in claim 11.

8. Claims 14-15 recite "said selected reference frame". It is unclear which frame is being referred to here as "said selected reference frame" because multiple selected frames have been previously recited in claim 11.

9. Claims 17-20 recite "said reference frame". It is unclear which frame is being referred to here as "said reference frame" because multiple reference frames have been previously recited in claim 11.

10. Claims 21-22 contain slashes between words. Since these slashes can be interpreted to be an "and" or an "or", the scope of these claims is unclear due to these slashes.

11. The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the [fifth paragraph of 35 U.S.C. 112], a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

12. Claim 8 is rejected under 35 U.S.C. 112, 4th paragraph, as being of improper dependent form for failing to further limit the subject matter of the claim upon which it depends, or for failing to include all the limitations of the claim upon which it depends. The limitations of claim 8 are already contained in claim 1. Applicant may cancel the claim(s), amend the claim(s) to place the claim(s) in proper dependent form, rewrite the

claim(s) in independent form, or present a sufficient showing that the dependent claim(s) complies with the statutory requirements.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1-2, 11-12, 17 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Cosman et al. (US 2006/0098738).

15. Regarding claim 1, Cosman discloses:

A moving picture encoding method executed by using an encoder for performing a multi-frame motion prediction with reference to a plurality of picture frames, comprising:  
selecting at least one reference frame from a plurality of reference frames of the same picture type which are used for the multi-frame motion prediction of a certain frame (Cosman: [0024]; [0026]); and

encoding by said encoder the selected reference frame in a higher picture quality than the other reference frames of the same picture type (Cosman: [0023]),

wherein:

said selecting step comprises selecting a plurality of reference frames (Cosman: [0030]), and

said encoding step comprises encoding said plurality of selected reference frames (Cosman: [0030]);

said method further comprising a step of:

arranging the frames encoded in the higher picture quality at constant frame intervals (Cosman: [0030]).

16. Regarding claim 2, Cosman discloses:

The method according to claim 1, wherein the frame encoded in the higher picture quality is a frame to which more code amount is assigned than the other frames of the same picture type (Cosman: [0023]).

17. Regarding claims 11-12, Cosman discloses the system limitations of these claims as discussed above with respect to claims 1-2.

18. Regarding claim 17, Cosman discloses:

The apparatus according to claim 11, wherein said selection means selects said reference frame at constant frame intervals (Cosman: [0025]).

19. Regarding claim 21, Cosman discloses the system limitations of this claim as discussed above with respect to claim 1.

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 3-6, 8 13-15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Hui (WO 99/63760).

22. Regarding claim 3,  
Cosman teaches:

The method according to claim 1 (as shown above),

Cosman fails to teach:

wherein the frame encoded in the higher picture quality is a frame having a smaller quantizing parameter than the other frames of the same picture type.

Hui teaches:

wherein the frame encoded in the higher picture quality is a frame having a smaller quantizing parameter than the other frames of the same picture type (Hui: pg 2, line 18-25; pg 3, line 11-23).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Lessening a quantization parameter in order to increase quality, as in Hui, would benefit the Cosman device by optimizing frame quality. Additionally, this is the application of a known technique, lessening a quantization parameter in order to increase quality, to a known device ready for improvement, the Cosman device, to yield predictable results.

23. Regarding claim 4,  
Cosman teaches:

The method according to claim 1 (as shown above),

Cosman fails to teach:

wherein the frame encoded in the higher picture quality is a P-picture frame.

Hui teaches:

wherein the frame encoded in the higher picture quality is a P-picture frame (Hui: pg 2, line 18-25; pg 3, line 11-23; pg 5, line 7-24).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Encoding a frame in a certain manner due to the frame being a P-picture would benefit the Cosman device by providing for coding adjustments to be made according to an amount of motion present between frames and frame quality, thereby increasing video compression while maintaining video quality. Additionally, this is the application of a known technique, encoding a frame in a certain manner due to the frame being a P-picture, to a known device ready for improvement, the Cosman device, to yield predictable results.

24. Regarding claim 5,

Cosman teaches:

The method according to claim 1 (as shown above),

Cosman fails to teach:

wherein the frame encoded in the higher picture quality is a B-picture frame.

Hui teaches:

wherein the frame encoded in the higher picture quality is a B-picture frame (Hui: pg 2, line 18-25; pg 3, line 11-23; pg 5, line 7-24).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Encoding a frame in a

certain manner due to the frame being a B-picture would benefit the Cosman device by providing for coding adjustments to be made according to an amount of motion present between frames and frame quality, thereby increasing video compression while maintaining video quality. Additionally, this is the application of a known technique, encoding a frame in a certain manner due to the frame being a B-picture, to a known device ready for improvement, the Cosman device, to yield predictable results.

25. Regarding claim 6,

Cosman in view of Hui teaches:

The method according to claim 5, further comprising a step of:

when a plurality of continuous B-picture frames is encoded, in comparison with a final B-picture frame in said continuous B-picture frames, encoding B-picture frames prior to said final B-picture frame in a higher picture quality (Hui: pg 2, line 18-25; pg 3, line 11-23; pg 5, line 7-24).

26. Regarding claim 8,

Cosman in view of Hui teaches:

The method according to claim 6, wherein said selecting step comprises selecting a plurality of reference frames, and said encoding step comprises encoding said plurality of selected reference frames (Cosman: [0030]);

said method further comprising a step of:

arranging the frames encoded in the higher picture quality at constant frame intervals (Cosman: [0030]).

27. Regarding claims 13-15, Cosman in view of Hui teaches the system limitations of these claims as discussed above with respect to claims 3-5.

28. Regarding claim 22,

Cosman teaches:

An input/output apparatus to/from which moving picture data encoded by performing a multi-frame motion prediction with reference to a plurality of picture frames is input and output, comprising:

a video decoder for decoding said encoded moving picture data (Cosman: [0038]); and

monitor means for monitoring a picture type, a reference frame, a quantizing parameter, and a frame memory, supplied from said video decoder (Cosman: [0038]) and for determining whether or not said encoded moving picture data includes a reference frame that is used for the multi-frame prediction and that is encoded in the higher picture quality than the other frames of the same picture type (Cosman: [0023]-[0026]; [0050]).

Cosman fails to teach:

monitor means for monitoring a variable length code

Hui teaches:

monitor means for monitoring a variable length code (Hui: pg 8, line 3-16; pg 9, line 5-7).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Hui with Cosman. Encoding a frame using variable length code and monitoring for such code at a decoder, as in Hui, would benefit the Cosman device by furthering compression frames, thereby decreasing bandwidth consumption. Additionally, this is the application of a known technique, encoding a frame using variable length code and monitoring for such code at a decoder, to a known device ready for improvement, the Cosman device, to yield predictable results.

29. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Yutaka (JP 2001-128179).

30. Regarding claim 9,

Cosman teaches:

The method according to claim 1 (as shown above), further comprising a step of:  
adaptively changing a frame interval of the frames encoded in the higher picture quality (Cosman: [0053])

Cosman fails to teach:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded.

Yutaka teaches:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded (Yutaka: abstract).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Yutaka with Cosman. Changing a frame interval of a reference frame based on inter-frame prediction, where inter-frame prediction is defined by Cosman to include motion and differential information (Cosman: [0004]-[0005]), would benefit the Cosman device by using a high quality reference frame that provides the best prediction ability. Additionally, this is the application of a known technique, changing a frame interval of a reference frame based on inter-frame prediction, to a known device ready for improvement, the Cosman device, to yield predictable results.

31. Regarding claim 19, Cosman in view of Yutaka teaches the system limitations of this claim as discussed above with respect to claim 9.

32. Claims 10, 16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cosman et al. (US 2006/0098738) in view of Hui (WO 99/63760) and Yutaka (JP 2001-128179).

33. Regarding claim 10,  
Cosman in view of Hui teaches:

The apparatus according to claim 6 (as shown above), further comprising a step of:

adaptively changing a frame interval of the frames encoded in the higher picture quality

Cosman in view of Hui fails to teach:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded.

Yutaka teaches:

in accordance with differential information and motion information between a reference frame and a subject frame to be encoded (Yutaka: abstract).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Yutaka with Cosman in view of Hui.

Changing a frame interval of a reference frame based on inter-frame prediction, where

inter-frame prediction is defined by Cosman to include motion and differential information (Cosman: [0004]-[0005]), would benefit the Cosman in view of Hui teachings by using a high quality reference frame that provides the best prediction ability.

34. Regarding claim 16,

Cosman in view of Hui teaches:

The apparatus according to claim 15 (as shown above),

Cosman in view of Hui fails to teach:

wherein said selection means, from a plurality of continuous B-picture frames, selects a B-picture frame prior to a final B-picture frame in said continuous B-picture frames.

Yutaka teaches:

wherein said selection means, from a plurality of continuous B-picture frames, selects a B-picture frame prior to a final B-picture frame in said continuous B-picture frames (Yutaka: Fig 9).

At the time of invention, it would have been obvious to a person having ordinary skill in the art to combine the teachings of Yutaka with Cosman in view of Hui. Selecting a B-frame prior to a last B-frame, as in Yutaka, would benefit the Cosman in view of Hui

teachings device by using a frame that provides the best prediction ability depending on which frame is the current frame.

35. Regarding claim 18,

Cosman in view of Hui and Yutaka teaches:

The apparatus according to claim 16, wherein said selection means selects said reference frame at constant frame intervals (Cosman: [0030]).

36. Regarding claim 20,

Cosman in view of Hui and Yutaka teaches:

The apparatus according to claim 16, further comprising:

moving picture analysis means for outputting differential information and motion information between a reference frame and a subject frame to be encoded (Cosman: [0004]-[0005]):

wherein said selection means selects said reference frame in a manner that frame intervals of reference frames to be selected are adaptively changed in accordance with said differential information and said motion information (Yutaka: abstract).

### ***Conclusion***

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PONTIUS whose telephone number is

(571)270-7687. The examiner can normally be reached on Monday - Thursday, 8 AM - 4 PM est..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James Pontius/  
Examiner, Art Unit 2485

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January 2, 2012